DOCUMENT RESUME

ED 459 946 PS 030 034

TITLE	Grade Five Curriculum: A Parent's Guide.
INSTITUTION	Department of Defense Education Activity, Arlington, VA.
PUB DATE	2000-00-00
NOTE	18p.; For Grade One through Grade Six curriculum standards, see PS 030 030-035. For the Kindergarten Curriculum, see ED 446 822. For the Prekindergarten Curriculum, see ED 446 821.
PUB TYPE	Guides - Non-Classroom (055)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Academic Standards; Civics; Computation; Cultural Differences; Curriculum Guides; *Elementary School Curriculum; Elementary School Students; Fractions; Government Role; *Grade 5; Intermediate Grades; Language Arts; Mathematics; *Parent Materials; Reading; School Activities; Sciences; Social Studies; United States History
IDENTIFIERS	Department of Defense

ABSTRACT

This publication from the Department of Defense Education Activity (DoDEA) is designed to inform parents about the department's Grade Five curriculum standards in four major areas: language arts/reading, mathematics, science, and social studies. The integrated language arts/reading standards require students to recognize and respond to different types of literature. Students will understand that a single text may elicit a wide variety of responses. They will interpret figurative language, colorful expressions, and local informal speech. They will learn to adapt language to meet different social and situational needs. Mathematics standards emphasize the use of the base-ten number system to name infinitely large and infinitely small quantities. Students will represent relationships between numbers on a number line including the placement of fractional numbers. Computation strategies include generating multiple solutions for time, money, fractions, and measurement problems. Science skills needed to conduct investigations are reinforced at this level. Students will be introduced to more detailed concepts of sound and light. The cellular makeup of organisms and the distinguishing characteristics of groups of organisms will be emphasized. The social studies standards emphasize the history of the United States from pre-Columbian times until 1877. Students will study important U.S. documents, including treaties, the Constitution, the Bill of Rights, and Civil Rights legislation. The roles of the various branches of government will be defined. Comparisons between the U.S. and host nation countries will provide students with the experience of identifying commonalities and differences among cultures. (KB)

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GRADE FIVE

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A PARENT'S GUIDE

Department of Defense Education Activity

PS 030034

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Message From The Director

Dear DoDEA Parents:

DoDEA is committed to providing your children with the best education possible. One of the ways that we intend to accomplish this is with an effective curriculum of high quality. DoDEA has developed rigorous curriculum standards aligned with national guidelines and with the standards of the finest school systems throughout the Nation. Even with the most rigorous curriculum standards, it is the understanding and support of parents that will help make our schools and our students successful. At DoDEA, we want parents to know what educational standards have been established in the four major subject areas of Language Arts/Reading, Mathematics, Science, and Social Studies.

This publication is designed to inform you about what your children are learning in these four major curriculum areas for this grade level. This publication provides you with samples of what students are learning and what they should know and be able to do when they complete this grade. This is only a sample of the complete curriculum standards that are used by teachers to determine instruction in the classroom. To see the entire curriculum in these four areas, consult the teacher or the school principal.

I hope that you find this publication informative in assisting us in the education of your child. Working together we can ensure your child's success now and well into the future.

Ray Tolleson
Interim Director

STANDARDS

To create a world-class education system, DoDEA has developed rigorous and demanding curriculum standards. The curriculum standards specify what students should know and be able to do. DoDEA curriculum standards are based on the content standards produced by the National Council of Teachers of Mathematics, the National Council of Teachers of English the International Reading Association, the National Research Council's National Science Education Standards and the National Council for Teachers of Social Studies.

Standards are important because they set high levels of learning and performance for all students. The standards also serve as a basis for assessment across the curriculum. They focus on what is important in each curriculum area.

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INTRODUCTION

Students recognize and respond to different types of literature; e.g., poetry, folktales, fables, legends, drama, myth, and short stories. They understand that a single text may elicit a wide variety of responses. They interpret figurative language, colorful expressions, and local informal speech. They adapt language to meet different social and situational needs. Social studies standards emphasize the history of the United States from pre-Colombian times until 1877. Students study important U.S. documents to include treaties, the Constitution, the Bill of Rights, and Civil Rights legislation. The roles of the various branches of government are defined. Comparisons between the U.S. and host nation countries provide students with the experience of identifying commonalties and differences among cultures.

Mathematics standards emphasize the use of the base-ten number system to name infinitely large and infinitely small quantities. Students represent relationships between numbers on a number line including the placement of fractional numbers. Computation strategies include generating multiple solutions for time, money, fractions, and measurement problems. Science skills needed to conduct investigations are reinforced at this level. Students are introduced to more detailed concepts of sound and light. The cellular makeup of organisms and the distinguishing characteristics of groups of organisms are stressed.

GRADE 5

Language Arts/Reading Standards

Reading

Students explain the author's choice of words and form generalizations. Students will:

- Find the main idea in a selection
- Increase vocabulary through interactions with media and technological resources
- Draw conclusions
- Increase personal vocabulary through reading experiences
- Explain meaning of abstract words such as "love," "peace," and "beauty"
- Differentiate fact from opinion

Writing

Students use process writing, developing an idea into a complete piece with a distinct beginning, middle and end, using technological aids throughout the writing process as appropriate. Students will:

- Develop an idea into a complete piece with a distinct beginning, middle, and end
- Employ various means for publishing final pieces, including appropriate handwriting and/or technology
- Use a variety of lead sentences, sentence patterns, audiences, and purposes in creating first drafts
- Write frequently for practical and academic purposes

Listening, Speaking, and Viewing

Students respond appropriately to a range of complex instructions. Students will:

- Give detailed, well-organized oral reports on information learned

- Discern fact, fiction, and inference heard
- Receive and respond appropriately to a range of complex instructions when pursuing a task either individually or as a member of a group
- Explain why a particular course of action was taken, giving specific reasons
- Discuss variations of vocabulary in different dialects and levels of usage

Literature

Students explain story themes and understand that a single piece of literature may draw out a variety of responses. Students will:

- Explain cultural differences of different types of literature
- Identify the climax and resolution of a story
- Explain story themes
- Interpret figurative language, colorful expressions and informal speech
- Understand the parts of a book
- Understand that a single text may elicit a wide variety of responses
- Explain the aspects of cultural and historical periods on a piece of literature
- Identify universal themes

The English Language

Students use quotations to add emphasis to their speech and writing and develop specific vocabulary to suit different purposes. Students will:

- Understand and respect the cultural diversities in our language
- Explain the history of selected words
- Use quotations to enhance communication
- Increase use of figurative language
- Adapt language to meet different situations and social needs
- Develop specific vocabulary to suit different purposes; i.e., scientific, technological, content specific

Accessing and Processing Information

Students understand the ethical use of technology and use available technology to research and produce products that are accurately documented. Students will:

- Use parents and community members as resources for learning
- Develop an understanding of the ethical use of technology generated materials
- Use appropriate language when comparing, contrasting, and/or explaining cause and effect

Mathematics Standards

Mathematics as Problem Solving

Students should be engaged in problem solving activities so they can show proficiency in being able to:

- Estimate reasonable solutions to problems by comparing them to similarly solved problems
- Apply strategies such as make a list, draw a picture, find a pattern, use objects, guess and check, work backwards, and use logical reasoning to solve real world problems

Mathematics as Communication

Students should experience numerous opportunities for communication so they can show proficiency in being able to:

- Describe solution processes step-by-step, both orally and in writing
- Express mathematical ideas in journals

Mathematics as Reasoning

Reasoning is throughout the mathematics curriculum so students can show proficiency in being able to:

- Explain why particular strategies were used to solve specific problems
- Use calculators to validate and check predictions

Mathematical Connections

Students should have opportunities to make connections so they can show proficiency in being able to:

- Collect data pertaining to the use of math in newspapers or periodicals
- Collect and display data concerning everyday expenses

Computation and Estimation

Students should develop computation and estimation skills so they can show proficiency in being able to:

- Add and subtract mixed fractions
- Estimate and compute the average of a group of numbers

Number Sense, Number Operations, and Number Relationships

Students should develop number and number relationships so they can show proficiency in being able to:

- Estimate whole number products
- Order sets of whole numbers, fractions, and decimals

Patterns, Relationships, and Functions

Students should study and explore patterns, relationships, and functions so they can show proficiency in being able to:

- Complete sequences of numbers in which there are combinations of arithmetic operations
- Transfer information from tables to appropriate graphs

Probability and Statistics

Students should experience data analysis and probability so they can show proficiency in being able to:

- Interpret and discuss graphs (circle, bar, line, stem and leaf, box and whiskers, etc.)
- Develop and conduct surveys and compute averages from collected data
- Make predictions about future events based on collected data

Geometry

Students will study one, two, and three dimensional geometry so they can show proficiency in being able to:

- Compare circles to their circumferences, diameters, and radii using manipulatives

- Recognize and draw parallel and intersecting lines including perpendicular lines
- Draw and describe different types of angles and triangles

Measurement

Students will have extensive concrete experiences using measurement so they can show proficiency in being able to:

- Identify and use appropriate units of time, temperature, length, weight, and volume
- Solve problems involving values of coins and bills of different denominations

Algebra

Students should experience algebraic concepts and processes so they can show proficiency in being able to:

- Describe and generalize patterns
- Plot and identify points on number lines
- Develop tables of values that reflect stated equations

Science Standards

Inquiry Skills

Students will conduct investigations using the processes of scientific inquiry. Students will:

- Design and conduct observational and experimental investigations
- Select and use appropriate tools to measure, collect, and record data, and make observations
- Ask questions about observations and develop procedures to answer the questions

Physical Science

Students will compare properties and changes with matter and energy. Students will:

- Conduct investigations to compare physical and chemical properties of matter (examples: texture, melting)
- Investigate how light can be reflected
- Name examples of how different forms of energy are used in everyday life (example: riding in a car is the result of chemical energy and electrical energy)

Life Science

Students will determine relationships between structure and function (example: bird's wing for flying) in living systems, and between organisms and their environments. Students will:

- Compare a variety of cells in plants and animals
- Describe the roles of producers, consumers, and decomposers in an ecosystem
- Explain how plants and animals adapt to their environment

Earth and Space Science

Students will examine the geology of the earth and the factors/ patterns that influence its history. Students will:

- Explain things that cause geological events such as volcanoes and earthquakes

- Identify processes that represent slow, continuous change (examples: water, ice, wind,) and those that are fast and catastrophic (examples: volcanoes, meteorites, earthquakes, tidal waves)
- Explain solar and lunar eclipses

Science and Technology

Students will demonstrate ability to design and build things, and explain how science and technology are interdependent.
Students will:

- Design a solution for an identified problem
- Determine whether the solution is appropriate to the problem
- Illustrate that technology is constantly changing (examples: computers and medicine)

Science in Personal and Social Perspectives

Students will practice safety and conduct risk/benefit analysis.
Students will:

- Demonstrate personal and group safety when engaging in science activities
- Determine characteristics of a "quality" versus "polluted" environment
- Evaluate the risks, costs, and benefits of human decisions related to hazards in the local environment (example: build a new sewage treatment plant to reduce water contamination from septic tanks)

History and Nature of Science

Students will understand science as a human endeavor. Students will:

- Investigate areas in which scientists disagree about issues (examples: extinction of dinosaurs, global warming)
- Identify scientists from different ethnic backgrounds who have made contributions to science (examples: George Washington Carver)

Social Studies Standards

Citizenship

Social studies programs should include experiences that provide for the study of the ideals, principles, and practices of citizenship in a democratic republic, so that the learner can:

- Explain the main ideals of the democratic form of government
- Give examples of citizens' rights and responsibilities

Culture

Social studies programs should include experiences that provide for the study of culture and cultural diversity, so that the learner can:

- Describe similarities and differences between cultures
- Identify minority individuals who have contributed to American history
- Discuss the impact of the institution of slavery on society

Time, Continuity, and Change

Social studies programs should include experiences that provide for the study of the ways human beings view themselves in and over time, so that the learner can:

- Describe ideas related to settlement and immigration patterns
- Describe important U.S. documents and their impact
- Identify factors which transformed the United States from an agricultural to an industrial society
- Develop a timeline for U.S. history

Space and Place

Social studies programs should include experiences that provide for the study of space and place, so that the learner can:

- Change information from maps and globes to graphs and diagrams

- Give examples of uses of land and natural resources that modify the environment

Individual Development and Identity

Social studies programs should include experiences that provide for the study of individual development and identity, so that the learner can:

- Explain the influence of ideas, attitudes, values, and beliefs on personal identity
- Know how racial, cultural, economic, and religious status may influence an individual's self-concept

Individual, Groups, and Institutions

Social studies programs should provide for the study of the interaction among individuals, groups, and institutions, so that the learner can:

- Explain the need for social institutions in providing safety, security, and order for the general welfare
- Explain how groups and institutions work to meet personal needs and to promote the common good

Production, Distribution, and Consumption

Social studies programs should include experiences that provide for the study of how people organize for the production, distribution, and consumption of goods and services, so that the learner can:

- Define terms: personal and bank loans, savings, interest, collateral, and credit
- Explain how the market determines the goods and services to be produced

Power, Authority, and Governance

Social studies programs should include experiences that provide for the study of how people create and change structures of power, authority, and governance, so that the learner can:

- Define legislative, executive, and judicial roles on the national level

- Explain the duties of Congress, the President, and the Supreme Court

Science, Technology, and Society

Social studies programs should include experiences that provide for the study of relationships among science, technology, and society, so that the learner can:

- Describe how science and technology have changed perceptions of the human and natural world
- Explain the need for laws and policies to govern scientific and technological inventions

Global Connections

Social studies programs should include experiences that provide for the study of global connections and interdependence, so that the learner can:

- Explain how language, art, music, literature, belief systems, and other cultural elements can both connect people and cause misunderstanding
- Identify problems of enforcing universal human rights in the world